



United States Department of the Interior



FISH AND WILDLIFE SERVICE
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January 17, 2018

To: Interested Parties

From: Josh Gruber, Supervisory Fish Biologist, Red Bluff Fish and Wildlife Office

Subject: Biweekly report (January 1, 2018 - January 14, 2018)

Please find attached preliminary daily estimates of passage, 90% confidence intervals, and fork length ranges of unmarked juvenile salmonids sampled at Red Bluff Diversion Dam for the period January 1, 2018 through January 14, 2018. Race designation was assigned using length-at-date criteria.

This report also contains graphical displays of salmonid passage dating back to 2010 for comparison.

Please note that data contained in these reports is subject to revision as this data is preliminary and undergoing QA/QC procedures.

If you have any questions, please feel free to contact me at (530) 527-3043 ext 233.

Table 1.— Preliminary estimates of passage by brood-year (BY) and run for unmarked juvenile Chinook salmon and steelhead trout captured by rotary-screw traps at Red Bluff Diversion Dam (RK391), Sacramento River, CA, for the dates listed below. Results include estimated passage, peak river discharge volume, water temperature, turbidity, and fork length (mm) range in parentheses. A dash (-) indicates that sampling was not conducted on that date.

Date	Discharge volume (cfs) ¹	Water temperature (°C)	Water turbidity (NTU)	Estimated passage				
				BY17 Winter	BY17 Spring	BY17 Fall	BY17 Late-Fall	BY18 RBT
1/1/2018	5,626	10.3	—	—	—	—	—	—
1/2/2018	5,648	10.4	—	—	—	—	—	—
1/3/2018	5,362	10.5	2.4	335 (60 – 92)	24 (47)	826 (28 – 39)	0 (—)	24 (79)
1/4/2018	5,141	11.0	2.3	90 (76)	94 (44)	188 (36)	0 (—)	0 (—)
1/5/2018	4,826	11.6	3.5	0 (—)	0 (—)	989 (31 – 39)	0 (—)	0 (—)
1/6/2018	4,781	11.8	3.9	0 (—)	119 (43)	120 (35)	0 (—)	0 (—)
1/7/2018	4,645	11.0	—	—	—	—	—	—
1/8/2018	4,531	10.7	2.9	0 (—)	0 (—)	955 (31 – 36)	0 (—)	0 (—)
1/9/2018	7,567	10.9	3.5	0 (—)	0 (—)	1,139 (29 – 38)	0 (—)	0 (—)
1/10/2018	8,775	10.9	—	—	—	—	—	—
1/11/2018	6,082	10.7	3.1	4,453 (60 – 100)	201 (46 – 56)	19,530 (26 – 42)	126 (120)	0 (—)
1/12/2018	5,429	10.9	4.2	251 (60 – 87)	238 (56 – 58)	2,441 (29 – 39)	0 (—)	0 (—)
1/13/2018	5,096	10.8	2.9	331 (61 – 84)	0 (—)	2,713 (30 – 44)	0 (—)	33 (175)
1/14/2018	4,894	10.5	2.9	157 (72 – 90)	0 (—)	2,540 (30 – 40)	0 (—)	25 (120)
Biweekly Total ²				6,801	927	37,920	147	110
<i>Biweekly Lower 90% Confidence Interval</i>				2,016	256	18,335	-29	-60
<i>Biweekly Upper 90% Confidence Interval</i>				11,586	1,598	57,504	323	279
Brood Year Total				439,362	129,866	55,971	77,825	110
<i>Brood year Lower 90% Confidence Interval</i>				311,947	94,590	30,941	24,152	-60
<i>Brood year Upper 90% Confidence Interval</i>				566,777	165,143	81,000	131,498	279

¹ Peak daily discharge values do not account for diversions at RBDD and only represent peak flows registered at the Bend Bridge Gauging station (<http://cdec2.water.ca.gov/cgi-progs/queryFx?bnd>).

² Biweekly totals may be greater than the sum of the daily estimates presented in this table if sampling was not conducted on each day of the biweekly period. A dash (-) denotes those dates. To estimate daily passage for days that were not sampled, we impute missed sample days with the weekly mean value of days sampled within the week.

Juvenile Winter Chinook Salmon Estimated Passage

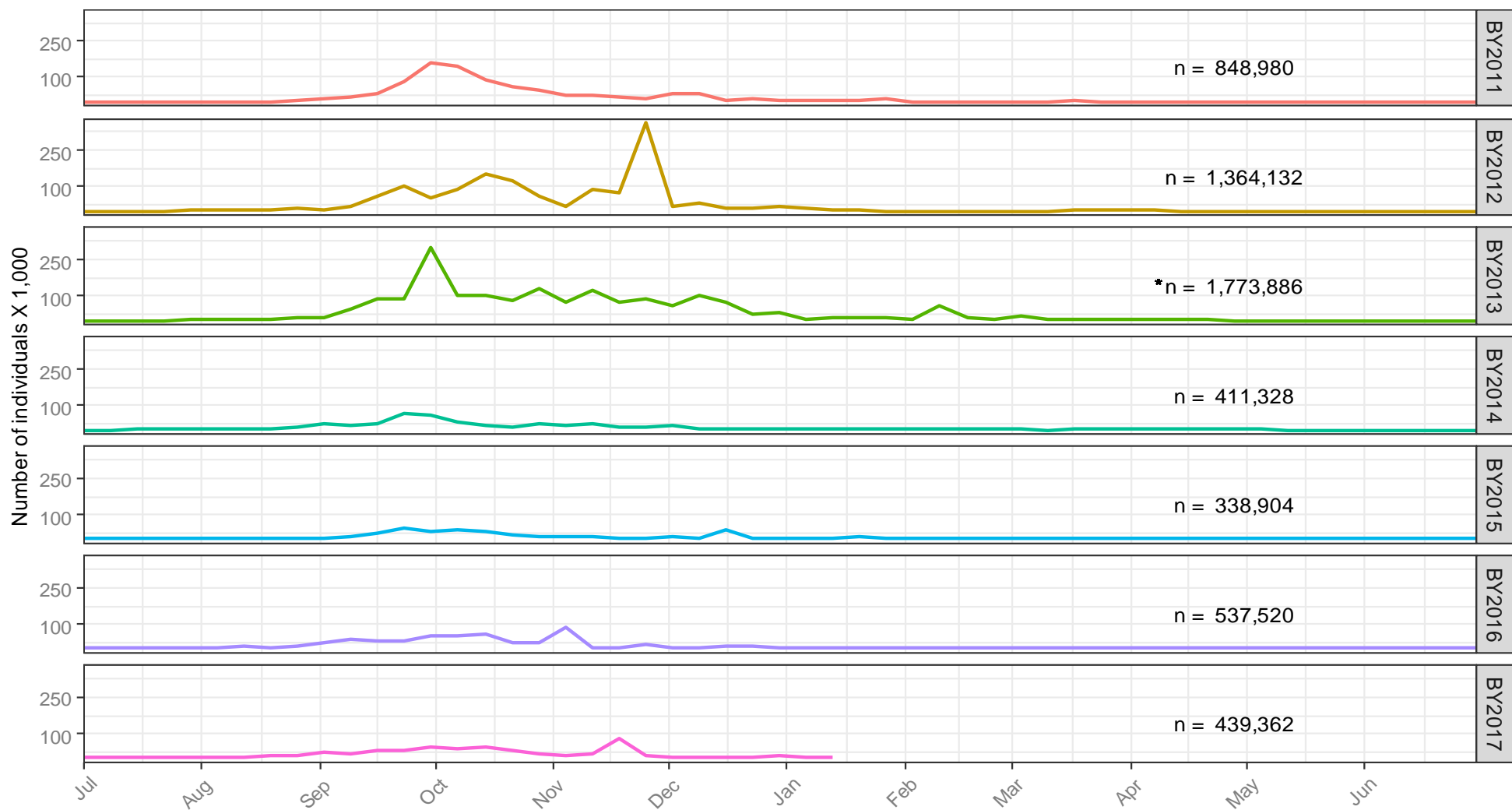


Figure 1. Weekly estimated passage of unmarked juvenile winter Chinook salmon at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period July 1, 2011 to present .

*Winter run passage value interpolated using a monthly mean for the period October 1, 2013 - October 17, 2013 due to government shutdown .

Juvenile Spring Chinook Salmon Estimated Passage

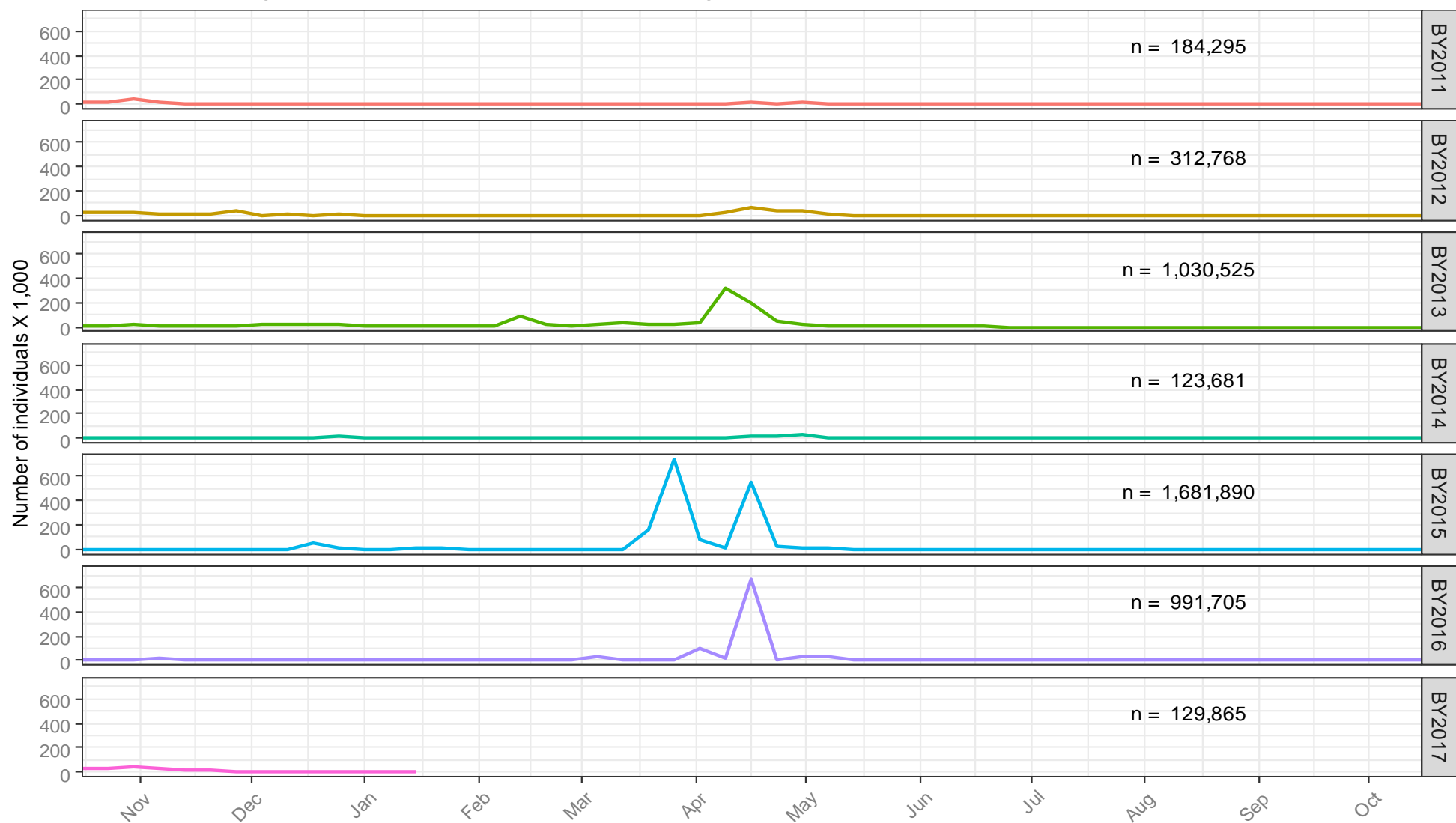


Figure 2. Weekly estimated passage of unmarked juvenile spring Chinook salmon at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period October 16, 2011 to present.

Juvenile *Onchorhyncus mykiss* Estimated Passage

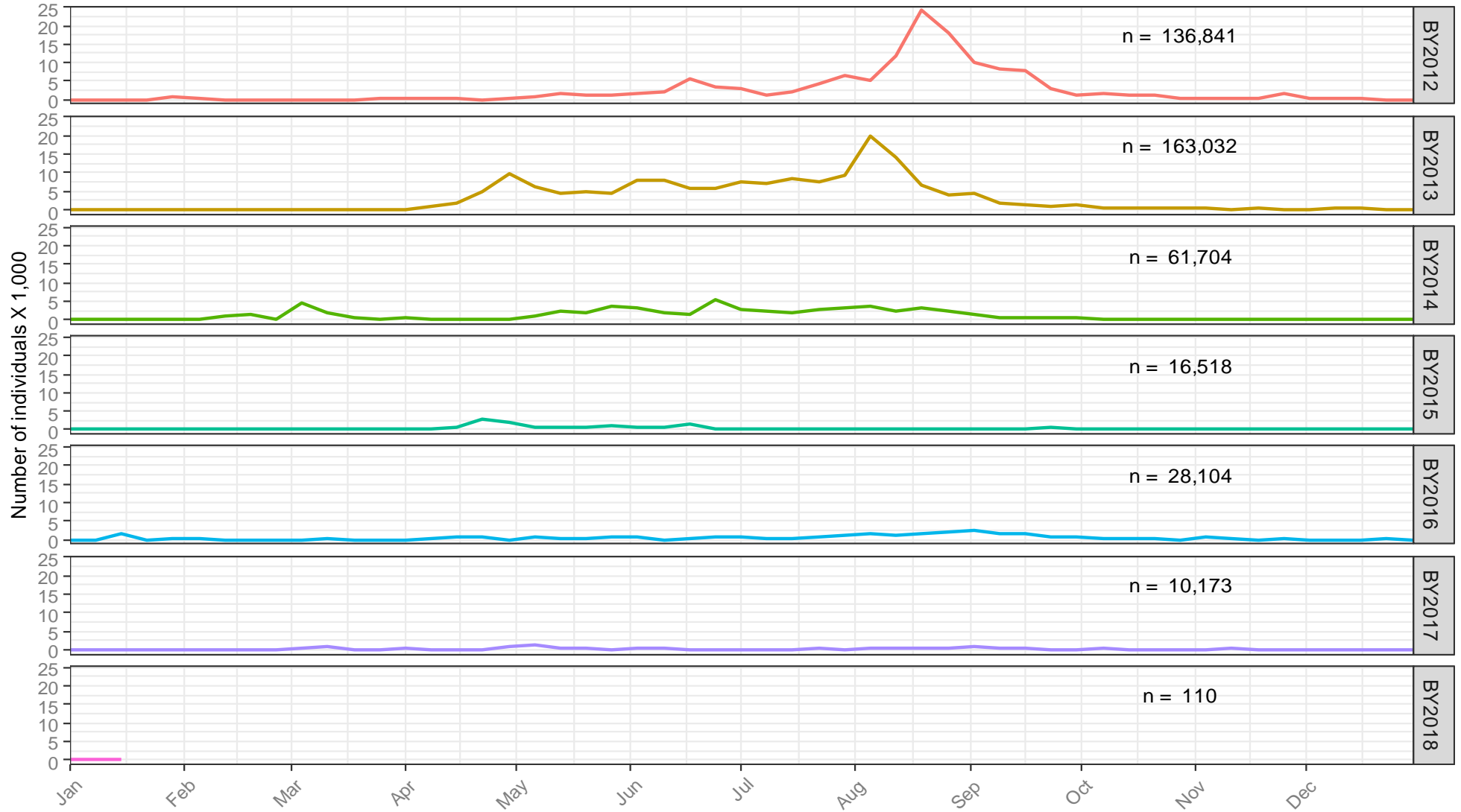


Figure 3. Weekly estimated passage of unmarked juvenile Rainbow/Steelhead trout at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period January 1, 2012 to present .

Juvenile Fall Chinook Salmon Estimated Passage

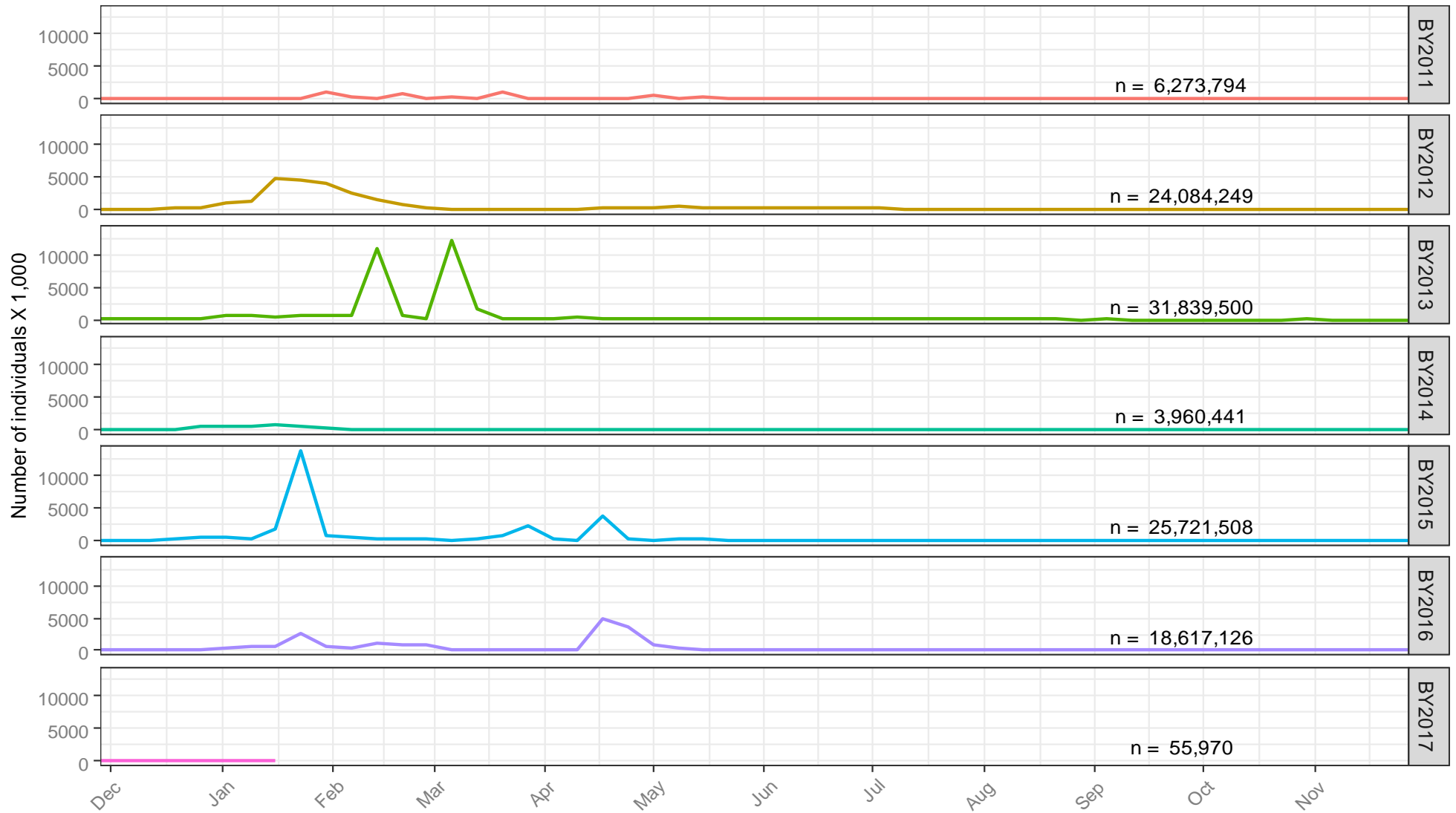


Figure 4. Weekly estimated passage of unmarked juvenile fall Chinook salmon at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period December 1, 2011 to present .

Juvenile Late Fall Chinook Salmon Estimated Passage

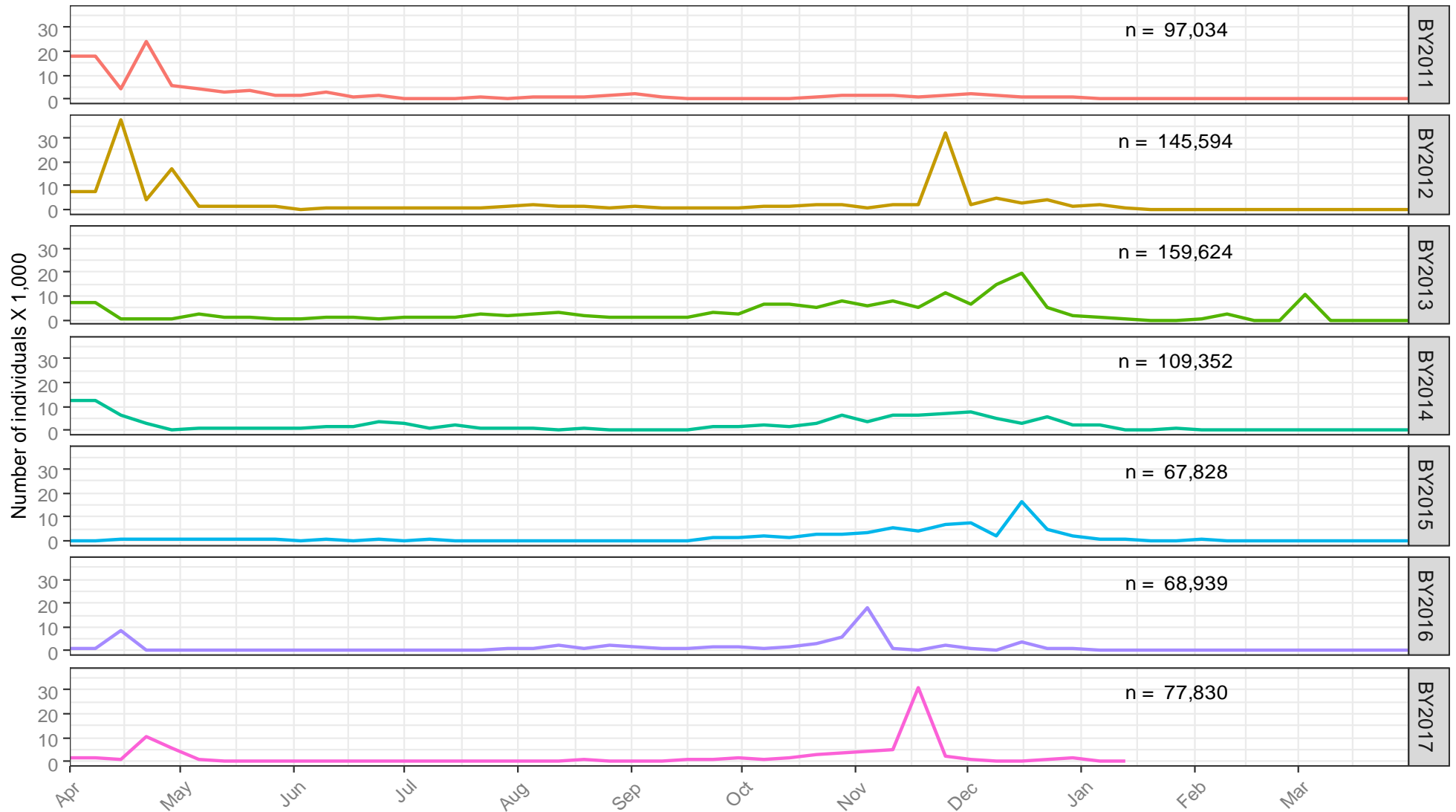


Figure 5. Weekly estimated passage of unmarked juvenile late fall Chinook salmon at Red Bluff Diversion Dam (RK391) by brood-year (BY). Fish were sampled using rotary-screw traps for the period April 1, 2011 to present .

Weekly Estimated Chinook Passage at Red Bluff Diversion Dam - All Runs Combined

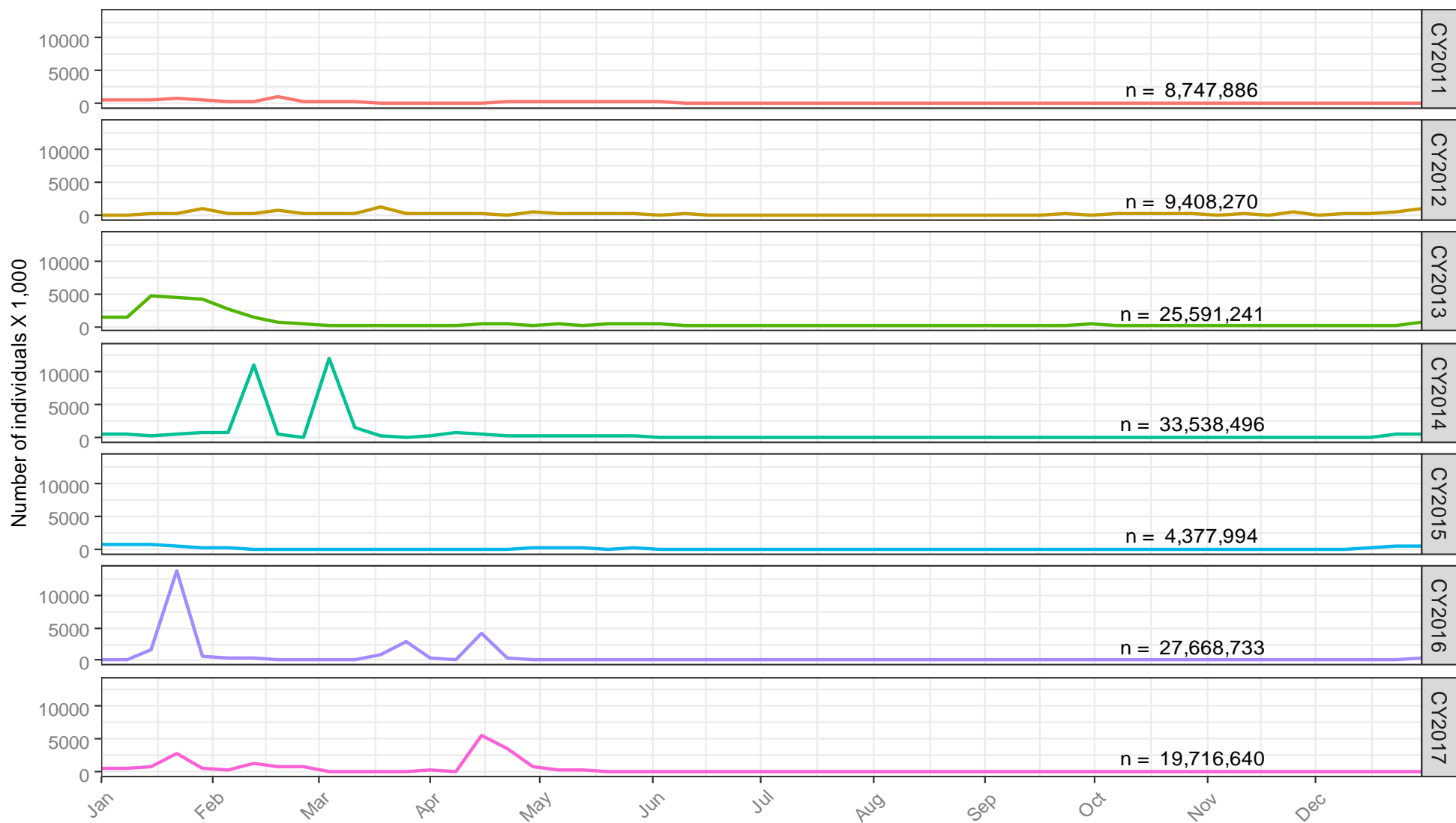


Figure 6. Weekly estimated passage of unmarked juvenile Chinook salmon at Red Bluff Diversion Dam (RK391) by calendar year. Fish were sampled using rotary-screw traps for the period January 1, 2011 to December 31, 2017